Organic Compounds, and Enzymes Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

REVIEW Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period \_\_\_\_\_\_\_

1. **ORGANIC COMPOUNDS – Complete the following chart and answer the following questions**.

|  |  |  |  |
| --- | --- | --- | --- |
| **Organic Compound** | **Building Block (Monomer, Subunit)** | **Function(s)** | **Common Food Sources** |
| Carbohydrates |  | 1.
2.
 |  |
| Lipids |  | 1.
2.
3.
4.
 |  |
| Proteins |  | 1.2.3.4. |  |
| Nucleic Acids |  | 1.
 | Nucleic Acids are not obtained by eating foods. Your DNA comes from your parents.  |

1. Explain each of the following examples of CARBOHYDRATES:
* Starch:
* Cellulose:
* Glycogen:
* Chitin:
1. Lab Review - For each organic compound, list how it was tested for in lab:

|  |  |
| --- | --- |
| **ORGANIC COMPOUND** | **HOW WAS IT TESTED FOR IN LAB?** |
| Starchy Carbohydrates |  |
| Simple Sugar Carbohydrates |  |
| Lipids |  |
| Proteins |  |

1. Identify what organic compound each of these pictures are describing:

|  |  |  |
| --- | --- | --- |
| **Picture** | **Organic Compound** | **Chemical Elements found in Each** |
|  |  |  |
| http://www.biologyjunction.com/images/nucleotide1.jpg |  |  |
| http://i.quizlet.net/i/5qS8pTT5HKQA_9MCEilIcw_m.jpg |  |  |
| http://gcat.davidson.edu/rakarnik/aminoacid.gif |  |  |

1. If a molecule ends in –ose it is most likely a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
2. If a molecule ends in –ase it is most likely a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
3. What is the difference between a disaccharide and a polysaccharide?
4. What is a dehydration synthesis reaction?
5. What is a hydrolysis reaction?
6. Differentiate between saturated fatty acids and unsaturated fatty acids.
7. **ENZYMES – Answer the following questions using your Enzyme notes.**
8. Describe the process of an enzyme acting on a substrate from beginning to end. Use all related vocabulary we have discussed. (enzyme, substrate, active site, enzyme-substrate complex, products)

.

1. Why are enzymes necessary in living organisms?

Lower activation energy

1. Analyze the following graph and answer the questions associated.



**A.**What temperature does this enzyme work best at?

**B.**What would happen to this enzyme if the temperature went up to

 70°C?

**C.**What other factors can affect how well an enzyme functions and how do they affect an enzyme’s functioning?

1. Analyze the following graph and answer the questions associated:



1. Which enzyme functions best in an acidic environment?
2. At a pH of 5, both enzymes are not working optimally. Explain.
3. If the pH of the human stomach is approximately 4, which enzyme is probably most active there?